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The national rice requirement in Indonesia today is very high, and can not be fullfiled from irrigated lowland rice area only. However, the contribution of upland rice, which is grown in dryland and rainfed area , to national rice production is lower compared to lowland rice, although dryland area in Indonesia is much wider compared to lowland area. One of the advantage of upland rice culture compared to lowland rice is it can be grown side by side with other crops under intercropping system. Studies on the interaction between upland rice and other crops is needed to get the crops suited to grow together.

This paper is a review of the results of a series of field experiments on the intercropping between upland rice and other (legume and horticultural) crops conducted in agriculture experiment station, Gadjah Mada University, in Kalitirto district, Yogyakarta, from 2000 up to 2005. The methodology used is based on the replacement series technique. Basically, there are three different types of interaction, i.e. (1) Mutual inhibitation, when the actual yield of each species is less than expected. (2) Mutual cooperation or complementary, when the actual yield of each species is greater than expected . (3) Compensation, one species yield less and the other more than expected.

The results of the experiments was classified in two groups i.e. (1) upland rice vs legume crops and (2) upland rice vs horticultural crops. Most of legume crops stimulated upland rice yield. However, the effect of upland rice on each legume was different, i.e. decreased yield such as in mung bean and groundnut, or no significant effect such as in velvet bean (*Mucuna sp.*). Thus a compensation type of interaction was occurred. In horticultural crops, the results varied, depended on the species of the crop. Complementary was shown on the interaction between upland rice and water melon. In intercropping upland rice – onion, upland rice stimulated onion yield while onion did not affected to upland rice yield. However, in intercropping upland rice – pineapple, both Cayenne and Queen types of pineapple gave positive effect (increased) to upland rice yield, while upland rice did not gave harmful effect to pineapple.